

### AMENDMENTS TO THE CLAIMS

This listing of Claims will replace all prior versions, and listings, of Claims in the Application:

#### Listing of Claims.

1-100 (CANCELLED)

101 (NEW): An electrode active material represented by the general formula:



wherein,

- (a) A is selected from the group consisting of Li, Na, K, and mixtures thereof, and  $0 < a \leq 8$ ;
- (b) M comprises one or more metals, wherein at least one of the one or more metals is capable of undergoing oxidation to a higher valence state, and  $1 \leq b \leq 3$ ;
- (c) Z is selected from the group consisting of a hydroxyl, a halogen, and mixtures thereof, and  $0 < d \leq 6$ ;

wherein A, M, Z, a, b and d are selected so as to maintain electroneutrality of the electrode active material.

102 (NEW): The electrode active material according to Claim 101, wherein A is Li.

103 (NEW): The electrode active material according to Claim 101, wherein A is selected from the group consisting of Li, Na, and mixtures thereof.

104 (NEW): The electrode active material according to Claim 101, wherein a is 0.1 to about 6.

105 (NEW): The electrode active material according to Claim 101, wherein a is from about 2 to about 6.

106 (NEW): The electrode active material according to Claim 101, wherein a is from about 3 to about 6.

107 (NEW): The electrode active material according to Claim 101, wherein M comprises a transition metal selected from Groups 4 through 11 of the Periodic Table.

108 (NEW): The electrode active material according to Claim 107, wherein M is a +3 oxidation state transition metal selected from Groups 4 through 11 of the Periodic Table.

109 (NEW): The electrode active material according to Claim 107, wherein M is selected from the group consisting of Fe, Co, Ni, Mn, Cu, V, Zr, Ti, Cr, and mixtures thereof.

110 (NEW): The electrode active material according to Claim 101, wherein M is M'M'', wherein M' is at least one transition metal selected from Groups 4 through 11 of the Periodic Table, and M'' is at least one element selected from Groups 2, 3, 12, 13, and 14 of the Periodic Table.

111 (NEW): The electrode active material according to Claim 110, wherein M' is selected from the group consisting of Fe, Co, Ni, Mn, Cu, V, Zr, Ti, Cr, and mixtures thereof.

112 (NEW): The electrode active material according to Claim 111, wherein M' is selected from the group consisting of Fe, Co, Mn, Cu, V, Cr, and mixtures thereof.

113 (NEW): The electrode active material according to Claim 111, wherein M'' is selected from the group consisting of Mg, Ca, Zn, Sr, Pb, Cd, Sn, Ba, Be, Al, and mixtures thereof.

114 (NEW): The electrode active material according to Claim 113, wherein M'' is selected from the group consisting of Mg, Ca, Zn, Ba, Al, and mixtures thereof.

115 (NEW): The electrode active material according to Claim 110, wherein M'' is selected from the group consisting of Mg, Ca, Zn, Sr, Pb, Cd, Sn, Ba, Be, Al, and mixtures thereof.

116 (NEW): The electrode active material according to Claim 101, wherein M consists of a transition metal selected from Groups 4 through 11 of the Periodic Table.

117 (NEW): The electrode active material according to Claim 101, wherein Z comprises F.

118 (NEW): The electrode active material according to Claim 101, wherein Z is F.

119 (NEW): The electrode active material according to Claim 101, wherein Z is selected from the group consisting of OH, F, Cl, Br, and mixtures thereof.

120 (NEW): The electrode active material according to Claim 101, wherein M is V, and Z is F.

121 (NEW): The electrode active material according to Claim 101, wherein Z comprises OH.

122 (NEW): The electrode active material according to Claim 101, wherein Z is OH.

123 (NEW): The electrode active material according to Claim 101, wherein d is from 0.1 to about 6.

124 (NEW): The electrode active material according to Claim 101, wherein d is from about 2 to about 6

125 (NEW): The electrode active material according to Claim 101, wherein d is from about 3 to about 6.

126 (NEW): A battery, comprising:

a first electrode comprising electrode active material represented by the general formula:



wherein,

- (a) A is selected from the group consisting of Li, Na, K, and mixtures thereof, and  $0 < a \leq 8$ ;
- (b) M comprises one or more metals, wherein at least one of the one or more metals is capable of undergoing oxidation to a higher valence state, and  $1 \leq b \leq 3$ ;
- (c) Z is selected from the group consisting of a hydroxyl, a halogen, and mixtures thereof, and  $0 < d \leq 6$ ; wherein A, M, Z, a, b and d are selected so as to maintain electroneutrality of the electrode active material.

the battery further comprising a second electrode which is a counter-electrode to the first electrode; and

an electrolyte.

127 (NEW): The battery according to Claim 126, wherein A is Li.

128 (NEW): The battery according to Claim 126, wherein A is selected from the group consisting of Li, Na, and mixtures thereof.

129 (NEW): The battery according to Claim 126, wherein a is 0.1 to about 6.

130 (NEW): The battery according to Claim 126, wherein a is from about 2 to about 6.

131 (NEW): The battery according to Claim 126, wherein a is from about 3 to about 6.

132 (NEW): The battery according to Claim 126, wherein M comprises a transition metal selected from Groups 4 through 11 of the Periodic Table.

133 (NEW): The battery according to Claim 132, wherein M is a +3 oxidation state transition metal selected from Groups 4 through 11 of the Periodic Table.

134 (NEW): The battery according to Claim 132, wherein M is selected from the group consisting of Fe, Co, Ni, Mn, Cu, V, Zr, Ti, Cr, and mixtures thereof.

135 (NEW): The battery according to Claim 126, wherein M is M'M'', wherein M' is at least one transition metal selected from Groups 4 through 11 of the Periodic Table; and M'' is at least one element selected from Groups 2, 3, 12, 13, and 14 of the Periodic Table.

136 (NEW): The battery according to Claim 135, wherein M' is selected from the group consisting of Fe, Co, Ni, Mn, Cu, V, Zr, Ti, Cr, and mixtures thereof.

137 (NEW): The battery according to Claim 136, wherein M' is selected from the group consisting of Fe, Co, Mn, Cu, V, Cr, and mixtures thereof.

138 (NEW): The battery according to Claim 136, wherein M" is selected from the group consisting of Mg, Ca, Zn, Sr, Pb, Cd, Sn, Ba, Be, Al, and mixtures thereof.

139 (NEW): The battery according to Claim 138, wherein M" is selected from the group consisting of Mg, Ca, Zn, Ba, Al, and mixtures thereof.

140 (NEW): The battery according to Claim 135, wherein M" is selected from the group consisting of Mg, Ca, Zn, Sr, Pb, Cd, Sn, Ba, Be, Al, and mixtures thereof.

141 (NEW): The battery according to Claim 126, wherein M consists of a transition metal selected from Groups 4 through 11 of the Periodic Table.

142 (NEW): The battery according to Claim 126, wherein Z comprises F.

143 (NEW): The battery according to Claim 126, wherein Z is F.

144 (NEW): The battery according to Claim 126, wherein Z is selected from the group consisting of OH, F, Cl, Br, and mixtures thereof.

145 (NEW): The battery according to Claim 126, wherein M is V, and Z is F.

146 (NEW): The battery according to Claim 126, wherein Z comprises OH.

147 (NEW): The battery according to Claim 126, wherein Z is OH.

148 (NEW): The battery according to Claim 126, wherein d is from 0.1 to about 6.

149 (NEW): The battery according to Claim 126, wherein d is from about 2 to about 6

150 (NEW): The battery according to Claim 126, wherein d is from about 3 to about 6.

151 (NEW): The battery according to Claim 126, wherein the second electrode comprises a material selected from the group consisting of a metal oxide, metal chalcogenide, carbon, graphite, and mixtures thereof.

152 (NEW): The battery according to Claim 151, wherein the electrolyte comprises a solvent selected from the group consisting of dimethyl carbonate, diethyl carbonate, dipropylcarbonate, ethyl methyl carbonate, butylene carbonate,  $\gamma$ -butyrolactone, triglyme, tetraglyme, a lactone, an ester, dimethylsulfoxide, dioxolane, sulfolane, and mixtures thereof.

153 (NEW): The battery according to Claim 152, wherein the electrolyte further comprises a lithium salt selected from the group consisting of  $\text{LiAsF}_6$ ,  $\text{LiPF}_6$ ,  $\text{LiClO}_4$ ,  $\text{LiB}(\text{C}_6\text{H}_5)_4$ ,  $\text{LiAlCl}_4$ ,  $\text{LiBr}$ , and mixtures thereof.